DOCUMENTS

CALLED FOR BY RESOLUTION OF THE HOUSE, RELATING TO THE FLORIDA RAIL-ROAD.

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(A.)

FINAL ESTIMATE.

FLORIDA RAILROAD, ALACHUA RIDGE—HENRY M. DRANE, CONTRACTOR.

Oct. 10th, 1857—From Stations 2,088 to 2,172, 52,121 c. y'ds ex. at 15 cts., (including turnouts and ditches,)	$7,818	15
5,525 c. y'ds emb. excl. cul. at 15 cts.,	828	75
Total graduation 57,646, at 15 cts.,	8,646	90
Clearing 10,800 feet, at $1 75 per mile,	357	95
Total graduation and clearing,	9,004	85
EXTRA WORK.—Moving earth 2nd time in turnout 165 y'ds, at 15 cts.,	24	75
Between 2,099 and 6,240 c. y'ds quicksand, at		
" 2,113 and 4,728 58 c. y'ds hard pan, at		
" 2,124 and 2,165, cutting 6 ft., 6,844 c. y'ds, at		
Extra berm.—78 sta., av. 6 ft., 20 of these av. 8 feet.		

Deduct $10 for unfinished clearing between 2,080 and 2,088. Deduct from this estimate work done by Grar, as estimated by Mr. Hirns 500 c. y'ds, at 15 cts.

I certify that the above is a correct estimate of the work herein described done by Henry M. Drane during the months of July, August, September and up to the 7th October, 1857, and that the prices annexed are those which, by the terms of the contract, properly apply.

THOS. BALTZELL, JR.,
Ass't Eng. F. R. R.

Some of this work was done before and some after the 18th August, and lies between the points 59 and 62 miles from Fernandina.

ESTIMATE FLORIDA RAILROD—MCDOWELL & CALLAHAN, CONTRACTORS.

Oct. 16th, 1857—Between Stations 1,871 and 1,878, 2,794 c. y'ds emb., (exclusive of work done by Sadler and by Irwin, and also of culverts,) at 25 cts.,	$698 50

I hereby certify that the above is a correct estimate of the work done by McDowell & Callahan between Stations 1,871 and 1,878 on the Florida Railroad, said work completing the graduation between those points, and was finished Oct. 14, 1857.

W. A. HERRING,
Ass't Eng. Fla. R. R.

Done after the 18th August and situate about 57 miles from Fernandina.

N. B. Mr. Irwin did about the same amount of work, at the same point, since the 18th August.

ESTIMATE No. —.—FLA. R. R., JOHN A. SUMMERLIN, CONTRACTOR.

Oct. 28th, 1857—Between Stations 3,068 and 3,089, 882 cross-ties, at 25 cts.,	220	50
Between Stations 3,089 and 3,169, 2,982 cross-ties, at 20 cts.,	596	40
	816	90
Reserved 25 per cent.,	204	22
	$612	68

I certify the above is a correct estimate of the cross-ties furnished the Florida R. R. Co. between Stations 3,068 and 3,089, and 3,089 and 3,160, by John A. Summerlin; that they are of proper form and kind, delivered according to agreement, and that the prices annexed are those which, by the terms of his contract, do properly apply.

W. A. HERRING,
Ass't Eng. Fla. R. R.

N. B. A very few of these cross-ties were beyond the 80 mile point.

FLORIDA RAILROAD.—SEPTEMBER ESTIMATE—McDOWELL & CALLAHAN, CONTRACTORS.

Oct. 18th, 1857—Between Stations 1,669 and 1,677, 1,259 c. y'ds emb., at 25 cts.,		$314 75
Between Stations 1,702 and 1,704 x 57, 482 c. y'ds emb., at 25 cts.,		120 50
		435 25
Deduct 100 c. y'ds for cutting Berm,		25 00
		410 25
Between Stations 1,833 and 1,860, 4,987 c. y'ds emb., at 16 cts.,		797 92
900 feet clearing, at $1 75 per mile,		26 51
		$1,234 68

The above estimate was made by Mr. Baltzell.

W. A. HERRING.

Done within 55 miles of Fernandina.

FLORIDA RAILROAD.—SEPTEMBER ESTIMATE—SUMMERLIN, CONTRACTOR.

Oct. 1st, 1857—Between Stations 2,700 and 2,764, 2,688 cross-ties, at 20 cts.,		$537 60
Deduct 20 per cent. reserved,		107 52
		$430 08

I certify that the above is a correct estimate of the number of cross-ties between Stations 2,700 and 2,764, of proper kind and dimensions, furnished by William Crosby, for J. A. Summerlin, to the Florida Railroad.

THOS. BALTZELL, JR.,
Ass't Eng. Fla. R. R.

Summerlin has completed between Stations 2,700 and 3,068. This work was about 74 miles from Fernandina, and all done after the 18th August.

FINAL ESTIMATE—ALACHUA RIDGE, FLA. R. R.—LEE, SAVAGE & LANGSTON, CONTRACTORS.

Oct. 10th, 1857—Between Stations 1,982 and 2,080, 22,640 c. y'ds ex., at 15 cts.,		$3,396 00
19,458 c. y'ds emb., at 15 cts, (exclusive of culverts,)		2,918 70
Ditches, 2,728 c. y'ds, at 15 cts.,		409 20
Total graduation,		6,723 90

Clearing 8,600 feet, at $1 75 per mile, and 1,200 feet, at $1 70 per mile,		323 65
Total graduation and clearing,		7,047 55
EXTRA WORK.—At Station 2,037, error in curve, 60 c. y'ds, at 15 cts.,	$9 00	
At Station 2,053, error in levels, 120 c. y'ds, at 15 cts.,	18 00	
From 2,064 x 50 to 2,068, em. in levels, 129 c. yd's, at 15 cts.,	19 35	
From 2,075 x 50 to 2,080, em. in levels, 333 c. y'ds, at 15 cts.,	49 95	
Total extras,		96 30
		$7,143 85

From 2,060 to 2,071, cutting over 6 feet deep 3,269 c. y'ds.

Extra berm, 59 Sta., average 6½ ft. 15 of these average 7½ feet.

I certify that the above is a correct estimate of the work herein described, done on the Florida Railroad during the months of July, August and September, 1857, by Lee, Savage & Langston, and that the prices annexed are those which, by the terms of their contract, properly apply.

THOS. BALTZELL, JR.,
Ass't Eng. F. R. R.

This work was about the 58 and 59 mile points from Fernandina, some of it done before and some after the 18th August.

FINAL ESTIMATE.—FLA. R. R.—W. H. SPAIGHT, CONT'R.

Nov. 7th, 1857—Cross ties between Stations 1,832 and 2,172: delivered 13,072, at 25 cts.,		3,268 00
Delivered 169, (which were rejected but since used on the account of scarcity,) at 12½ cts.,		21 12½
		$3,289 12½

I certify the above to be a correct estimate of the entire number of cross-ties delivered on the Florida Railroad, between Stations 1,832 and 2,172, by W. H. Spaight, and that the prices annexed are those which, by the terms of his contract, do apply. I furthermore certify, that W. H. Spaight discontinued getting cross-ties on his contract Nov. 7th, 1857, not having completed the same, as agreed, but having delivered the number for which he received instructions from the Engineer in charge of track-laying.

W. A. HERRING,
Act. Ass't Eng. Fla. R. R.

A very few of these cross-ties were cut before the 18th August, but none counted and inspected till afterwards.

All this work was within the 62 mile point from Fernandina.

ESTIMATE.—ALACHUA TRAIL RIDGE, FLA. RAILROAD.—JAMES CARAWAY, CONTRACTOR.

Nov. 1st, 1857—Between Stations 2,080 and 2,084 x 25 ft., 864 c. y'ds emb., (exclusive of culvert,) at $

Clearing out some logs, 4 00

I certify the above to be a correct account of the work done on the Florida Railroad, between Stations 2.080 and 2,084 x 25 ft., by James Caraway, during the month of October, 1857.

W. A. HERRING,
Act. Ass't Eng. Fla. R. R.

The amount given to Caraway for clearing was deducted from Drane's estimate, by Mr. Baltzell, by instruction from Mr. Cole. The price for Caraway's graduation has not been affixed in this estimate. His work joined that of Kelly & Bro., and, in conjunction with theirs, finished the gap left between Lee, Savage & Langston and H. M. Drane.

Done since the 18th August about the 59 mile point.

FINAL ESTIMATE OF CROSS-TIES—DUNCAN M. BRYANT, CONTRACTOR.

Dec. 14th, 1857—19,149 cross-ties, at 20 cts. per tie,		$3,829 80
3,027 " 14 " " "		423 78
		4,253 58
Former payment,		2,544 60
Am't due,		$1,708 98

THOS. FRANKLIN,
Chief Engineer.

This work was done on the first ten miles West of the Alachua Trail Ridge, and lies about between the 62 and 72 mile points from Fernandina. Some few of the cross ties were cut before, but none counted and inspected till after the 18th August.

STATEMENT OF WM. CROSBY, IN THE MATTER OF GETTING OUT CROSS-TIES FOR THE FLORIDA RAILROAD.

I was getting cross-ties for Mr. Spate's contract; got out and furnished upon the road about five hundred and eighty cross-ties, or what came to one hundred and forty-five dollars, at 25 cents apiece, as near as I can remember. I had finished getting them one or two weeks before the first severe cold spell last fall, or the first friezing weather, but do not remember the precise date. All the ties I furnished at this time were for a part of the Railroad North of the place where the New River and Black Creek Road crosses the Railroad. Mr. Spate was getting cross-ties at the same time, and,

when I got through, I left Mr. Spate still getting cross-ties. As well as I remember, Mr. Bryant, the contractor for getting cross ties for the Railroad between Tison's Store and Starke, applied to me to assist him in getting out his contract since I got those for Mr. Spate's contract above referred to.

his
WILLIAM ⋈ CROSBY
mark.

Sworn to and subscribed before me, this 12th day of March, 1858.
M. WHIT SMITH, Notary Public.

STATEMENT OF VOLUNTINE R. PREVATT, IN REFERENCE TO THE TIME THE CROSS-TIES WERE GOTTEN OUT FOR THAT PART OF THE FLORIDA RAILROAD INCLUDED BETWEEN THE POINTS AT TISON'S STORE, AT TRAIL RIDGE, AND STARKE.

I understood that this part of the road was furnished cross-ties under Mr. Bryant's contract. I also understood that Mr. Bryant was getting out cross-ties for this part of the road in November and December, 1857. *I saw his hands at work in November.* John A. Summerlin went to the assistance of Mr. Bryant sometime in November, 1857, and was engaged for about five weeks getting out and furnishing cross-ties upon that part of the road. Summerlin's overseer (Mr. Harrison) told me that the cross-ties gotten out by Summerlin's hands amounted to one thousand dollars, at 25 cents a piece, making four thousand cross-ties.

V. R. PREVATT.

Sworn to and subscribed before me, this 14th day of March, 1858.
M. WHIT SMITH, Notary Public.

(B.)

FERNANDINA, Fla., August 18, 1857.

I, Francis L. Dancy, do hereby certify that the Florida Railroad Company have graded continuously, thirty miles of their road from Fernandina, in addition to the fifty miles certified to by me, May 5th, 1857, upon which said fifty miles the iron has been laid, making in all to the present time, eighty miles, according to the following specifications, to-wit:

The road bed in cuts is twelve feet wide at grade line, with ditches on each side five feet wide two and one half feet deep, and two feet wide at bottom, banks are twelve feet wide at top at grade line, and have slopes correspon-

ding to a base of one and one half horizontal to one foot vertical height.

The clearing is of a width of sixty-five feet on each side of the centre line of road.

All excavations and embankments are so constructed as to have a perfect drainage, and the whole work is performed in a very substantial and workmanlike manner.

I further certify, that the said company have delivered along the line of their Road a sufficient number of cross ties for the said eighty miles, allowing one for every 2½ feet of the following dimensions, to-wit:

Eight feet long and seven by eight inches, good, hard, yellow pine lumber.

F. L. DANCY,
Special Railroad Inspector.

To the Trustees of the
Internal Improvement Fund.

TALLAHASSEE, Fla., December 8, 1857.

I certify the above to be a true copy of a certificate filed by F. L. Dancy with the Trustee of the Internal Improvement Fund. M. D. PAPY, *Secretary, &c.*

FERNANDINA, Fla., August 18, 1857.

I, Francis L. Dancy, do hereby certify that the Florida Railroad Company have track laid on the fourth and fifth sections of ten miles each, making in all fifty miles of track laid down on the line of the road from Fernandina to Cedar Keys, and that the engine and cars are running over the same. The work is done in a substantial and workmanlike manner. The iron rails, (sixty pounds to the yard,) are well fastened to the cross-ties by chairs and spikes of the best quality. The road as far as completed, will compare favorably with any road in the southern country.

F. L. DANCY,
Special Railroad Inspector.

To the Trustees of the
Intereal Improvement Fund.

TALLAHASSEE, Fla., December 7, 1857.

I certify the above is a true copy of a certificate of F. L. Dancy, filed with the Trustees of the Internal Improvement Fund. M. D. PAPY, *Secretary, &c.*

David L. Yulee, President of the Florida Railroad, hereby states that the necessary quantity and quality of iron for laying thirty miles of the track of said road, in addition to the fifty miles already laid, has been purchased, and is understood and believed by him, to be within the jurisdiction of the State of Florida. That said iron is furnished by the contractors for the use of the Florida Railroad, under a contract requiring 60 lbs. to the lineal yard, and is accepted as such, and that the said iron is paid, and to be paid for with the bonds issued under the Internal Improvement Act of the State of Florida, passed January 6, 1855.

D. L. YULEE.

Sworn to and subscribed before me by the said David L. Yulee, this first day of September, A. D., 1857. Witness my hand and official seal. [L. S.]

DAE. SEIXAS,
Commissioner for Florida in New York.

I certify the above to be a true copy of an affidavit filed with the Trustees of the Internal Improvement Fund, December 7th, 1857. M. D. PAPY, *Secretary, &c.*

State of Florida, County of Nassau.

Joseph Finegan, Archibald H. Cole, and George W. Call, three of the Directors of the Florida Railroad Company, being severally duly sworn, say that the necessary quality and quantity of iron for thirty-two miles of their road (in addition to the fifty already laid,) commencing at the station fifty miles southwest of Fernandina, and extending thirty-two miles in the direction of Cedar Keys and Tampa Bay, has been purchased and is within the jurisdiction of the State of Florida. That said iron is of the weight of fifty-eight and one half pounds or thereabouts, to the lineal yard, and is to be paid for with the bonds of said Company, guaranteed by the Internal Improvement Fund of the State of Florida in accordance with the provisions of the act approved January 6th, 1855.

JOSEPH FINEGAN,
A. H. COLE,
GEO. W. CALL.

Sworn to and subscribed before me this 22d August, A. D., 1857.

CHARLES H. PELOT,
Justice of the Peace, Fernandina, Fla.

FERNANDINA, Fla., August 18, 1857.

I, Francis L. Dancy, do hereby certify that the Florida Railroad Company have in addition to the eighty miles of road certified to by me of this date, graded two miles of siding and track continuously, from and in connection with their main line of road according to the same specifications in every particular with the main line of road and have delivered along the line of the said siding and track the requisite number of cross-ties to the same extent and of the same dimensions as along the line of their main work.

F. L. DANCY,
Special Railroad Inspector.

To the Trustees of the
Internal Improvement Fund.

TALLAHASSEE, Fla., December 8, 1857.

I certify that the above is a true copy of a certificate of F. L. Dancy filed with the Trustees of the Internal Improvement Fund.

M. D. PAPY, *Secretary, &c.*

State of Florida, County of Duval.

McQueen McIntosh, one of the Directors of the Florida Railroad Company, being duly sworn, says that he is informed and believes, that the necessary quantity and quality of iron for thirty-two miles of said Road, (in addition to the fifty already laid) commencing at the station fifty miles southwest of Fernandina, and extending thirty-two miles in the direction of Cedar Key and Tampa Bay, has been purchased and is within the jurisdiction of the State of Florida, that said iron is of the weight of fifty-eight and one half pounds, or thereabouts, to the lineal yard, and is to be paid for with the bonds of said Company, guaranteed by the Internal Improvement Fund of the State of Florida in accordance with the provisions of the act approved Jan. 6th, 1855. McQUEEN McINTOSH.

Sworn to and subscribed before me, this 27th August, A. D., 1857.

WM. P. DEWEES, [L. S.] Notary Public.

I certify the above to be a true copy of an affidavit filed with the Trustees of the Internal Improvement Fund.

M. D. PAPY, *Secretary, &c.*

December 7th, 1857.

(C.)

TALLAHASSEE, FLORIDA, June 1st, 1858.

Board of Trustees of the Internal Improvement Fund:

GENTLEMEN—Immediately after receiving your instructions I went to Fernandina, where G. W. Call, Esq., one of the officers of the Florida Railroad Company, politely placed a hand-car and other facilities at my disposal, to promote the object of my visit. Having made a careful examination of that part of the Florida Railroad on which the track has been laid, I beg leave to make the following report:

My instructions were as follows: "To examine and report upon the manner in which the Florida Railroad has been constructed, and whether such construction has been, and is in conformity with the act to establish a liberal system of Internal Improvements in this State, and the modifications thereto, and if not, to report in what particulars the said Florida Railroad Company has failed to comply with said act."

It will be proper to consider separately the specifications contained in section 6. of "The act to provide for and encourage a liberal system of Internal Improvements in this State, (or the modification of those specifications,) and to compare the work as I found it, with those specifications or their modifications.

1. *Clearing.*—The first specification, as modified, requires that "The line of Road for sixty-five feet from the centre shall be cleared of all standing timber." I found the clearing generally sixty feet wide on each side of the centre line, but in places it varied from forty-five to fifty-five feet, and one swamp, some five hundred feet of the line, was only cleared thirty or forty feet from the centre. I did not find it sixty-five feet in any place.

2. *Grading.*—The second specification, as modified, is in the following words: "The grading shall be for a single track, except at depots, turnouts and similar places, where it shall be wider if required by the State Engineer, with a road-bed twenty-two feet wide, in cuttings, with ditches on each side five feet wide, two and a half feet deep, and two feet wide at bottom, and twelve feet wide on embankment at grade line, with slopes of one and a half feet base, to one foot rise; and in all excavations and embankments they shall be so constructed as to pass a perfect drainage, and not permit any standing water to come within three feet of the lower side of the cross-tie, and the whole performed in a very substantial and workman-like manner." The cuts are usually twenty feet wide at grade line, being in a few places twenty-one, but in no place twenty-two feet wide, with ditches from four to five feet wide on top. The depth and width at bottom of ditches could not be ascertained, as the slopes of cuts were left so steep, and spoil banks were allowed

too near those slopes, so that the sand has run in and nearly filled the ditches in many of the cuts, particularly on the first part of the Road. But I think the ditches sufficient to drain the cuts, which are nearly all sand, and ditches as deep as required in the second specification are entirely unnecessary, and, in fact, would be injurious to the road-bed in such a dry, sandy part of the country as the line of that road passes through. The embankments appear to have been built of the proper width and slope, with perhaps one or two exceptions, and they were ten instead of twelve feet wide on top. Many of the banks are now less than twelve feet wide at grade, but I think they were originally of the proper width, and have since been washed off by the rains, blown off by the winds, and earth has been taken from their slopes for "filling in" the track. From some careless work, either while grading or track-laying, the centre line of the cuts and banks on one of the tangents (some two miles or more in length) does not agree with the centre line of the track, so that the ends of cross-ties extend to the side ditch on one side. In several of the low banks the tops of stumps were left too near the grade line, so that the superstructure rests on those stumps, and having settled all around them, makes very rough places in the track. From what I could see and learn by inquiry, I think the drainage of the cuts and banks very good.

3. *Cross-ties.*—Specification third, as modified, requires "that all the cross-ties shall be delivered on the line of Road, and be of hard yellow pine, cypress, white, yellow, post, live or Spanish oak, white or red cedar, and not less than eight feet long, with not less than eight inches face, and seven inches in thickness, and shall be well and carefully bedded, and laid within two and a half feet from centre to centre." On the first three or four miles of the track from Fernandina, three-fourths of the ties are sawed, and are, perhaps, a little less than the required dimensions, but not enough to make a material difference in the stability of the track. The remainder of the ties, with the exception of, perhaps, half a dozen on each mile, are fully up to, and over the required dimensions; and taking them as a whole, they are an excellent lot of ties. On some parts of the curves, approaching Trail Ridge, the cross-ties are more than two and a half feet apart, being frequently three feet from centre to centre. The cross-ties have *not* been "well and carefully bedded," but, on the contrary, have been very badly and carelessly bedded, as on examination I found many ties with no bearing on the road bed except from one to two feet at each end, there being a long vacancy under more than half the tie. In many places the blows of the hammer in driving the spikes have settled the tie from a half to one and a half inches, which would not have been the case had the ties been well bedded. The whole track has the appearance of having been laid in a loose and hasty manner. Some of the rails have been bent, but none are materially injured. The road is very

rough, but this roughness is not owing altogether to the manner of laying the track, as from the rapidity with which the work has progressed, the company have been compelled to lay the track on "green banks," which banks, too, are of very soft and yielding material, and have not taken the necessary pains to "keep up" the track.

4. *Water-ways and Ditches.*—The requirements of the fourth specification are as follows: "At all water-ways sufficient space shall be left for the unobstructed passage of water, and at all points of the line of the Road where side ditches can be cut that will carry off the surface water, they shall be constructed by the Company." As well as I was able to ascertain by examination and inquiry (as it was quite dry while I was examining, I was compelled to depend to a great extent on the latter,) I think there was sufficient space left at all water-ways for the free passage of water at all times, and side ditches had been cut where it was found necessary to carry off the surface water. The culverts (which are with one or two exceptions open wooden culverts) are well framed and of good timber, but in many of them there is want of attention shown in the foundation. And in putting them in, or in laying track, it seems that there was not sufficient allowance made for settling of banks, so that there is a considerable rise and rough places in the track at every culvert.

5. *Bridges and Trestle Work.*—Fifth specification requires that "in the crossing of all streams the bridges shall be constructed according to plans approved by the State Engineer, and over all streams that are navigable, suitable draws should be put in to admit the passage of boats or vessels usually navigating the same, to be decided by the State Engineer." Perhaps the letter of the Internal Improvement Act has been carried out in the construction of Bridges and Trestle work, but I think the spirit of that act has been violated. Section 31 of the above act authorizes the Company to issue Internal Improvement Bonds to the amount of one hundred thousand dollars ($100,000) "for the structure necessary to cross from the west side of Nassau river to Amelia Island," it being doubtless intended by the Legislature that good and permanent structure should be put up. The Trestle across Amelia Marsh is a very simple and cheap structure, and has not the strength which it should have, it being a bent of two piles every ten feet sawed off level on top with a cap sill *pinned* on their top, and two stringers pinned to those caps immediately over the piles, and in the whole one and a quarter mile of Trestle there is not (that I could find) a mortice and tenon joint, or a brace of any kind, and on that trestle is a three degree curve. The remainder of the trestle work is of the $\bigwedge$ (inverted W) pattern, and is very good, except that pinning the base sills to the piles is two much used instead of mortice and tenon joints. The bridges are of the Howe Truss pattern, and are well built, but have not that appearance of permanency or durability which I think they

should have. They are built on pile piers and abutments, and are neither covered nor painted. The Draw Bridge at Kingsleys' cut is very good, and has lately received a good coat of paint.

As the Road does not cross Nassau river, I do not know on how much of the Road the Company used that one hundred thousand dollars ($100,000) of Bonds, but am confident that at the prices paid for that kind of work, all the Bridges and Trestle work on the first fifty miles of the Road could have been built for fifty thousand dollars ($50,000.)

As well as I was able to ascertain, the requirements of the sixth, seventh, eighth and ninth specifications, &c., have been complied with.

I was instructed by you "also to examine whether or not the Iron has been laid on the last section of thirty miles, and if not laid, how much remains to be laid, and if laid, when the same was completed." With this I send a statement of "Detailed account of Track laid of Florida Railroad," furnished to me by Mr. Koerner, the Office Engineer of the Florida Railroad, and I was informed by him and by Geo. W. Call, Esq., that no track had been laid on the Florida Railroad since March 1, 1858. It will be seen from Mr. Koerner's statement, that on the last section of thirty miles, for which the Company has received bonds, there are twenty-four miles, and four thousand and seventy-four (4,074) feet laid, leaving five (5) miles and twelve hundred and six (1206) feet (5¼ miles nearly) to be laid.

All of which is most respectfully submitted.

JNO. BRADFORD.

(D.)

OFFICE FLORIDA RAILROAD CO.,
July, 27 1858.

To the Trustees of the Internal Improvement Fund of the State of Florida:

GENTLEMEN—Since my arrival here, I have seen the copy of Mr. Bradford's report, which you caused to be transmitted to this office.

The examination was ordered, I presume, for the purpose of learning if the construction of this road conformed to the requirements of law.

It is altogether agreeable to the Company that such enquiry should be made, if the Trustees at all doubted; for if the construction of the road does not conform to the law, their own expectations would be disappointed.

The contract made for the work provides, in its first article, that the road shall be, "in all respects, conformable to the requirements

of the 6th section of the act of the General Assembly of Florida, approved the 6th day of January, 1855, entitled an act to provide for, and encourage a liberal system of Internal Improvements in this State."

Article 7 provides for any alterations in the details of construction which might be authorized by law, on the application of the Company.

Thus it will be seen that it was the intention of the Company to secure by their contract, a road conforming in all regards to the requirements of the law.

The 6th section of the Internal Improvement act orders the specifications of construction, and these specifications furnish the rule for the Companies, except so far as modifications may have been proposed by the Company, and assented to by the Trustees under the provisions of the act of December 14th, 1855.

The only modification which this Company has proposed, and which has been assented to by the Trustees, was a substitution of 12 feet, instead of 18 feet, for the width of embankments at grade line.

The 6th section makes nine distinct specifications. Are their requirements fulfilled?

1. The first specification requires the line of road to be cleared for *sixty feet* from the centre.

The agent reports that "he found the clearing generally 60 *feet wide* on each side of the centre line."

He notices some slight exceptions where the clearing was less than 60 feet, but at no point so narrow as the limit assented to by the Trustees (which I am informed is *thirty feet,*) on other parts of the system.

2. The second specification requires "a *road bed* twenty feet wide, in cuttings and ditches 2 to 3½ feet in depth below grade, with such width as the State Engineer may direct, and 18 feet wide on embankments at the grade line, with slopes of one and a half feet base to one foot rise, and an all excavations and embankments, they shall be so constructed as to have a perfect drainage, and not permit any standing water to come within three feet of the lower side of the cross-ties."

The agent reports, "the cuts are usually *twenty feet wide* at grade line, being in a few places twenty-one."

The depth and width of ditches he could not as certain, he says, after so much lapse of time since they were made, but he "thinks them sufficient to drain the cuts which are nearly all sand."

"The *embankments* he states to be 12 feets wide at grade."

The law specified 18 feet; but 12 feet was adopted by the other roads with the assent of the Trustees, and the same was adopted by this Company as sufficient, and submitted to the Trustees by the certificate of the Engineer, which stated specifically the width of

embankments at grade to be 12 feet. This modification was regarded as agreed to by the Trustees, and the contractors were not therefore required to widen them.

The *drainage* of the cuts and banks the agent says he thinks very good.

3. The third specification requires that the "cross-ties shall be of heart yellow pine, not less than nine feet long, with not less than nine inches face and eight inches in thickness, and shall be well and carefully bedded and laid within two and a half feet from centre to centre."

The agent reports, "that the ties, with the exception of *perhaps* half a dozen on each mile, are *fully up to and over the required dimensions*, and that taking them as a whole, they are an excellent lot of ties."

He excepts three or four miles on Amelia Island, where there being no tie timber, sawed ties had to be mostly used, where he says the sawed ties "are *perhaps* a *little* less than the required dimensions; but not enough to make a material difference in the stability of the track."

The distance of the ties is allowed to be as required, except "upon some parts of the curves approaching Trail Ridge." This, as well as what is said by the agent respecting the *bedding* of the ties, is explained and answered in the enclosed statement from Captain Smith.

But to exhibit the care with which these points were guarded in the contract, I give an extract from the contract under which the track-laying is executed, viz:

"To lay the track in a good and workmanlike manner, the ties to be well and firmly embedded in the earth, two and one half feet from centre to centre, and on a level with the grade given by the Engineer of the Company. The iron rail to be neatly fitted on the cross-tie to a guage of five feet. The chairs to be fitted on the cross-ties so as to present a uniform level surface of iron, and in no case shall the ties be permitted to swing by the spikes when the track is ready to be received. In laying down the iron, it is to be so arranged as to break joints as nearly equal as the length of iron will permit, the iron rail to be secured by being spiked in such manner as the Engineer of the Company may direct, the joints of rail to be perfectly true and level, the one with the other rail."

4. The fourth specification declares that at all water-ways, sufficient space shall be left for the unobstructed passage of water; and at all points on the line of the road where side ditches can be cut that will carry off the surface water, they shall be constructed by the Company under the direction of the State Engineer.

The Agent reports that he thinks there was sufficient space left at all water-ways for the free passage of water at all times, and side

ditches have been cut where it was found necessary to carry off the surface water.

5. The fifth specification provides "that in the crossing of all streams, the bridges shall be constructed according to plans approved by the State Engineer, and over all streams that are navigated, suitable drwas shall be put in to admit the passage of boats or vessels usually navigating the same."

The agent is not understood to deny that the plans of the bridges were approved by the State Engineer, nor that suitable draws have been put were the law required.

6. The sixth specification provides that the guage shall be uniformly five feet.

The agent reports that the specification has been complied with.

7. The seventh specification provides "that the iron rail shall weigh not less than sixty pounds per lineal yard, and be of the best quality of iron, and well fastened to cross-ties with the best quality of spikes and plates."

The agent reports that this specification has been complied with.

8. The eighth specification provides "that the entire equipment shall be of the first class, and shall at all times be sufficient for the prompt transportation of all the passengers and freight ordinarily offering."

The agent reports that this specification has been complied with.

9. The ninth specification provides "that the grade on no portion of the routes indicated by this act, shall exceed forty-five feet per mile, and no single curve shall exceed three degrees of curvature, or be adopted unless approved of by the State Engineer."

The agent reports that this specification has been complied with.

Thus it appears by the agreement of the agent that the law has been *entirely complied with.*

The only departure has been in the width of embankments specified in the act of January 6th, 1855, the modification in which was made with assent of Trustees by authority of the act of 11th December, 1855, and is the same used on all other roads included in the system.

The remarks made by the agent upon the details of some parts of the construction are considered and commented upon by the Chief Engineer of the road.

They are not material to the only point proper to be regarded, to-wit: The substantial conformity of the work to the requirements of the law, and are not therefore necessary to be noticed in this letter.

It is not unlikely that a road which has been rapidly constructed and immediately put in use, would be found to require much additional work to repair and perfect the track.

Such deficiencies are being daily discovered upon this as upon all other new roads, and are being rapidly remedied. It is the hope and expectation of this Company, that after a short time more of

work upon track repairs, the road will be suspassed by few, if any, in the Union.

The only other topic of remark in the report which I deem it proper to notice, is that which relates to the "structure necessary to cross from West side of Nassau River to Amelia Island."

I presume that the design of the Trustees was to obtain a report of *facts* and nothing more; whether the letter or spirit of the law was or was not complied with, was a matter for the consideration and decision of others.

The two points of fact, to which the agent adverts, relate to the form and cost of the structures.

As regards the form, it is perhaps sufficient to say that the structures were made under the direction of Gen. Alexander McRae, who, as Engineer and President of Railroads, has had the experience of a long life in actual connection with roads; but to the letter of Capt. Smith I refer the Trustees upon this point.

As regards the cost, the agent ventures a conjecture when, if he had been so obliging as to apply at the office of the Company, he could have had the exact data he desired; for although it was a matter which it did not belong to him to enquire or report upon, I dare say the officers of the Company would have gratified him. The actual cost to the Company as he would have learned was $100.000, that being the sum agreed upon in the contract, and which was actually paid in the bonds of the Company.

It appears by the statement of Capt. Smith, that the actual cash outlays by the contractors amounted to much more than the sum conjectured by the agent. When to that outlay is added the discount on the bonds, it is doubtful if they have realised a reasonable profit on the work, certainly not more. But whether more or less, the cost to the Company was $100.000 in bonds, and I am satisfied it was not too much, and know that it was not in my power to do better.

I am respectfully,

Your obedient servant,

D. L. YULEE,

Prest. Fla. R. R.

(E.)

(COPY.)

Engineer's Office, Florida Railroad,
Fernandina, 6th Aug., 1858.

SIR—I have to acknowledge the receipt of your letter of — inst., calling my attention to certain passages contained

in a report to the Trustees of the Interal Improvement Fund of the State of Florida by Mr. Bradford.

There is such an impropriety in reporting upon a work in progress of construction, as if it was finished, (except so far as regards its plans and the materials used,) that I would feel unwilling to sanction this impropriety by a reply, if it were not that injustice is done to the road.

It is known to most persons, and should be especially to Engineers, that the construction accounts of roads are not closed for many years after the termini are joined, and that until they are closed, the roads are regarded as unfinished, and approaching completion. For a long time after a road is in use, it is being daily improved and verging towards a complete construction. The first 70 miles of this road have never been regarded as completed; on the contrary, money and labor are daily expended upon it, in order not alone to bring the complete construction up to the spirit and requirements of the law, but to those of the age.

The first statement of Mr. Bradford concerning which you ask me is, "How much of the clearing along the line of the road has a less width than 60 ft., and what reason, if any, there was for its being less?" Out of 145 miles now cleared, about one half mile made up from several small places lying at the crossings of swamps and streams, has a width a little less than 60 feet. The reason for these places being so left was, I presume, that the water was high at the time of clearing, and that the circumstance afterwards absolutely escaped notice and passed from mind from its unimportance. It has not been thought necessary, thus far, to interrupt work for the sake of sending back and correcting the width.

The next point on which remarks are invited is the statement in the report that the ties have not been well and carefully bedded.

I frankly confess that it is difficult to meet this statement, taken, as it must be, in connexion with the admissions of the report, that the embankments, ties and iron are good. Certain it is that the ties have all remained in their places in the road-bed, and preserved, as much as was expected, the alignment of the track, which is the object in bedding them. Every thing else, with a road doing an active business as this was at the time of Mr. Bradford's inspection, depended upon upon the amount of money expended in track repairs, and it is for the Company

to decide their policy in this respect; and whether their iron is injured or not is plainly their own affair.

How Mr. Bradford can tell that in certain instances the sinking of the ties was due to the spiking of the iron, instead of to heavy locomotives daily passing over the road, is a matter not very clear to me, and it is not strange that the correctness of such a statement is doubted.

Allusion is also made to stumps being in the road. Few roads have been built, probably, without the contractors having succeeded in covering either stumps or logs, thus to a certain extent getting pay for work not done. Mr. Bradford states he saw some. I have also seen others, and several have been taken out. It is believed that in time all will disappear.

Enquiry is further made regarding the distance, from centre to centre, of the ties near Trail Ridge being in some cases greater than 2½ feet. This arose from the fact that at that point the contractor failed to get all the ties in place in time for the track-laying party; hence, to avoid the expense of delay, it was thought better to increase the intervals temporarily, and fill up between them afterwards, which has already been done in most places.

The only remaining point to which my attention is called, is the criticism upon the Trestle-work at Amelia marsh, and the general cost of structures between it and the western side of Nassau river.

In this connection the report states, "The Trestle across Amelia marsh is a very simple and cheap structure, and has not the strength which it should have." The reasons given to sustain these assertions seem to be, that the stringers are ten feet long between supports, and that there is no bracing to piles driven from ten to twelve feet in the ground.

Now it seems difficult to answer these assertions as well as they were answered by the structure itself, as it stood before him. There it was, had been in daily use for nearly two years, no accident had occurred, no timber had failed, no appearance of weakness was visible; it had a shorter span, a greater depth of string timber, and less height than similar works in Georgia, South and North Carolina, many of which are built by such men as Major Guion, Gen. McRae and Mr. Fleming, and in every respect like it, and yet it is not strong enough!

It is undoubtedly strong enough. Calculation and daily

use show it, and instead of there not being a brace throughout the entire length of the structure, every pile in it acts as a brace, as a moment's reflection must show.

In reply to Mr. Bradford's expressed confidence that all the structures for the first 50 miles could have been built for $50,000, I will merely state that the money actually paid out by the contractors for structures to cross the Amelia river and marsh and the head-waters of Nassau river, in order to get to the west of that stream, a distance of less than thirty miles, exceeds, by many thousands, the amount stated.

Your obedient servant,

(Signed) M. L. SMITH,
Chief Eng. Fla. Rail Road.

To Hon. D. L. YULEE,
President Fla. Rail Road.

(F.)

TALLAHASSEE, Florida,
Dec. 7th, 1858.

To the Board of Trustees of the Internal Improvement Fund:

GENTLEMEN—I have received from you the copies of letters of Mr. Yulee and Captain Smith, reviewing my report of June 1st, 1858. I find little in either which calls for a reply, yet the following points may be worthy of a brief notice:

1st. With regard to the cross-ties being well bedded. I cannot see that either Mr. Yulee or Captain Smith says that the ties are well bedded. Mr. Yulee simply gives "an extract from the contract under which the track laying is (was) executed," and Captain Smith states that "certain it is that the ties have remained in all their places in the road-bed and preserved, *as much as was expected,* the alignment of the track." How much was expected I cannot say, but the ties have not remained in their places, as at many points they had settled from four to eight inches, and the rails were *much out of line.*

Captain Smith also says, "How Mr. Bradford can tell that in certain instances the sinking of the ties is due to spiking of the iron, instead of to heavy locomotives daily passing over the road, is a matter not very clear to me."

It is perfectly clear to *any one* who has seen half a mile of track spiked, that when the ties are not well bedded, the blow of the hammer in driving the spikes will settle those ties, and the spikes can

only be driven until their heads reach the flange of the rail, unless the ties be held up to the iron rail, and as the ties were not thus held up, the heads of the spikes were still projecting from a half to one and a half inches above the flange of the rail.

2nd. In what Captain Smith says about the Amelia Trestle, he avoids speaking at all of the principal objection made by me to that trestle, and what he knew to be its principal objection, that is to the manner of connecting the cap-sills with the piles.

By italicizing the word "pinned" in the report, it was intended to designate with sufficient clearness the chief point of objection; while my *general* description of the trestle would suggest to any engineer that the structure was deficient in strength.

Both Mr. Yulee and Captain Smith, in using the name of General McRae, seem to forget that he was *contractor* and not the President or Engineer under whose supervision that trestle was erected. If that trestle is good enough, why the necessity of building a better at nearly double the cost, and why is the same company having better trestles built at every other point on the line of Road where they have a trestle?

3rd. The only other point of notice is the cost of structures necessary to cross from the west side of Nassau River to Amelia Island. On this Mr. Yulee states that, "as regards the cost, the agent ventures a conjecture, when, if he had been so obliging as to apply at the office of the Company, he could have had the exact data he desired."

The agent *did* apply at the office of the Company for these very data, and all that the office engineer of the Company could (or would) show him, was Joseph Finnegan &Co's books, crediting the Florida Railroad Company with $100,000 Bonds for bridging and trestle work from Amelia Island to the west side of Nassau River.

This not being all the information I desired on that point, the actual cost of those structures was obtained in the following manner.

The Engineer, at my request, stated the length and plan of all the different structures on the first fifty miles of the road (there are few or none between the thirty and fifty mile point, fifty was mentioned because I was not certain at what point the Company considered their line on the west of Nassau River)—and from the contract with Callahan and McDowel, (the bridge and trestle builders) a copy of which he afterwards allowed me to read, I learned what they (Callahan and McDowell,) received for each of the different kinds of structures, piers, abutments, &c., and with these data it was very easy to obtain, *not a conjecture*, but the *cost* of the structures, which was found to be less than $50,000.

I am, Respectfully. your ob't servt

JOHN BRADFORD.

(G.)

FERNANDINA, FLORIDA,
May 29th, 1858.

To his Excellency,
Governor M. S. PERRY,
President of the Board of Trustees of the Internal Improvement Fund of Florida:

SIR—The Florida Railroad Company has declared to your Board that I am regarded by them as an enemy.—This announcement was coupled with a charge, I learn from an officer of the Company, that must surround my name with no enviable odor. The Company charges that I volunteered to your Excellency certain information concerning the Road, its construction and management, that was uncalled for and calculated to injure their interests; that such disclosures were a betrayal of the confidence of my position as an Engineer in their service.

I reply, first: I have never volunteered anything of the sort as you will bear me witness.

Second—I could under no circumstances violate a confidence. But there are cases where another may find it necessary to ruin me in order to save himself. If he betrays me there ceases to be an obligation on my part to preserve intact what he placed in my possesion, if its production be necessary to thwart his purpose. There are cases in which the possession of a confidence may be wrong.

I regret exceedingly the position forced upon me by the Florida Railroad Company, but I shall not shrink from the issue, nor have I at any time made a secret of my opinions of the manner in which the work of this road was conducted.

These opinions I have stated to officers of the Company with even more freedom than to any others. This was proper because some old and dear friends are interested in the bonds and I have feared they were betrayed by these men.

At that time I knew nothing of any differences between the Directors and your Excellency, hence my opinion had no reference to any such question.

When I heard that such differences existed, and long before seeing you, I took the liberty of saying repeatedly in Fernandina and elsewhere, that your position was cor-

rect and strong; a judgment based on what I knew of the Florida Railroad and its Board of management and not a prejudice.

This it is that has caused the Florida Railroad Company to count me an enemy; a free expression of opinion on matters of public interest being forbidden to their friends.

As my name was thus presented to your Board, I claim, in simple justice to myself, the right to submit to you the observations that follow; they show to what extent I was justified in declaring that this Company has violated its obligations to the State, and betrayed, not only its endorsers, but those who have bought their Bonds.

Without inquiring whether the statute declares, in so many words, that the railways constructed under the Internal Improvement Act shall be what are usually denominated "first class southern roads," I take the evident intention of a law that has extended aid to the amount of more than $20,000 per mile, to construct a work that cannot possibly be made to cost, under competent management, over $16,000 per mile, if built and equipped in the first style of American Railroads whether whether in the North or South. And considering this appropriation in connection with the whole act, which evidently seeks to secure to the State an actual equivalent for the real property given, and the credit pledged, and which specifies the plan of construction in sufficient detail to secure the best quality of work if carried out, I am forced to the conclusion that the State expects and has a right to demand what in the South is called a first class railroad.

This supposes no extra finish, no extravagant outlay for unimportant details, but a road that may be operated as economically *at least* as any other and therefore able to afford the average amount of accommodation to its patrons, at average rates.

It should have a smooth track, and the general appearance of the work should be characterized by neatness, security and durability, requiring no extraordinary force to keep its track in good shape under a brisk business and yet able to run its passenger trains at fair average velocities with comfort to the passengers, and safety to the rolling stock.

The work should be neatly constructed of good materials, so put together as to insure strength and durability. The last named quality is especially necessary, since, if it

be not attained, the creditors of the road are liable to suffer loss from the damage, and even destruction of material, and from the great outlays necessary for repairs.

Such a work as this, the State demanded of those who would receive its aid and construct the Florida Railroad. And for such a road the State did extend aid ample to liberality to certain parties, who in accepting the State property, obligated themselves to comply with her demands and give for her assistance a reasonable return.

It is plain that the Florida Railroad Company understood the act as I have interpreted it, for in July, 1855, six months after its passage, Mr. Yulee says in a report to the Directors and Stockholders, "The work will be constructed in the most solid and substantial manner, and laid with heavy iron, not less than sixty pounds to the yard.—It is evident that the highest speed can be employed with safety for passenger trains; and that freight can be transported over this level road with great economy."

Is the Florida Railroad such a road as the State calls for, and the Company are under obligations to furnish?

I answer the question by an analysis of the work and the management, so far as I am familiar with them; at the same time so distinctly, that I shall be understood by any gentleman having the slightest possible knowledge of Railroad construction.

The first general impression that strikes an Engineer in riding over the road is its rugged, unfinished appearance. The banks untrimmed and gouged, the ties not lined at either end nor placed at uniform distances, and the track thrown into the direst condition by the passage of but two trains a day; while the motion of the car is extremely rough and unpleasant.

Looking about for the cause of this apparent wreck, he discovers a new and handsome rail weighing 60 pounds per yard, cross-ties of excellent material and extraordinary dimensions; the whole connected with chairs and spikes of the best quality and latest pattern. A road-bed of elastic materials, well ballested and easily worked; such, that he would have salected it from among many kinds if offered a choice.

It appears, then, that the materials of which the road is constructed are of the first character, but they are badly put together.

So much for general impressions; let us make a more careful examination of the work.

I shall not meddle with the location of the line, except so far as in some details it may affect the character of the construction. It is quite likely I shall not even touch that subject.

Leaving Fernandina and proceeding Westward along the line, the first work of importance that we come to is the structure crossing the river and marshes between Amelia Island and the main, a distance of something more than 6000 feet, for which the State made an extra appropriation of one hundred thousand dollars. The amount expended on the work, so trifling compared with this sum, will appear from the report of Mr. Bradford.

The structure consists of a long line of Piled trestle-work and two bridges; one a draw over the navigable channel, the other a permanent truss adjoining the draw. The Howe plan has been adopted for all the bridges on the line. The trestle consists of two piles surmounted by a cap, secured by one two-inch pin in each pile. Stringers are laid over these caps in the direction of the roadway, and on these stringers are placed the cross-ties which receive the iron. The stringers are pinned to those caps only on which the joints occur.

The sketch annexed shows the arrangement of timbers in this trestle. It will be seen that although this work is strong enough for the present, it is exceedingly cheap, unendurable and dangerous.*

The piles are not forked, nor are they protected from the worms except under the bridge. Already, I am told, have they begun their ravages. There are no mortices nor tenons—no bracing, longitudinal nor lateral. The timber is of poor, coarse quality, with thick sap and small heart, in a few cases not exceeding three or four inches. They are sometimes immersed for a part of their length in water, and then exposed to the heat of the sun. The capillary action of the cap will hold water about the heart, and the heat of the sun will produce that fermentation that accelerates decay. A system of bracing would protect the road from danger in case of the destruction of a pile, and there

* There being no Engraver at hand, the Printer is unable to furnish the sketch referred to, as well as those subsequently occurring, marked A and B.

is no current to make the room occupied a difficulty in the way of braces.

The bridges are formed of good timber. The contractor's work has been well done. But if they are all sufficient for the present, they are as cheaply built as it was possible to make them. The timber has not been dressed, nor has an attempt been made to protect any permanent truss on the line from decay by paints or covering of weather-boards.

To be such as the appropriation evidently contemplated, the timber should have been dressed with the plane and covered with three good coats of paint as soon as possible after raising. As it is, the braces are shrunk and split by the action of the sun, while the rough sawn surface operates like a spunge to absorb great quantities of moisture, keeping the timber in that dangerous state of rapid alternation from wet to dry that will cause decay and make inroads for repairs upon the resources of the Company before the bonds now issued shall have matured—expenses that might have been avoided by a small additional amount in the first instance. These faults exist in every bridge on the line.

There is another style of trestle upon this road that deserves some attention. I present a sketch of the arrangement of timbers. It will be understood as a simple truss, of which the lower, called the base sill, rests on piles.

Sketch A is a cross-section, showing one complete truss. Sketch B is a longitudinal section, showing a piece of the length of the road, and exhibiting the side of the truss and the braces by which the trusses are prevented from falling over—an accident which has proved very common to this class of trestle where there is an absence of these braces, which, in the sketch, are designated by the letters *a b* and *a c*.

If the trestle at *a*, in sketch B, should fall towards *b*, it is evident that the tendency would be to thrust the base sill, *b*, off the pile. This sill should therefore be firmly fixed in its place, by morticing upon tenons made on the tops of the piles. It is an interesting fact that such a very evident necessity as this appears to have been regarded by the Florida Railroad Company as a luxury which they could not afford. Two-inch pins, one on each pile, do the whole duty of mortice and tenons.

Concerning the minor detail of road-construction, we find

the sleepers under the track placed at irregular distances apart, and the crossings for roads carelessly and cheaply built, the ditch-bridge floors consisting only of pine saplings, two or three inches in diameter.

Stumps without number throw the track into obstinate prominences, while the banks are stuffed with the timber that has fallen in clearing the roadway. The Company refuses to settle with L'Engle & Sons, who have graded a portion of the work from the 40 to the 50 mile point, because it is not finished to grade; yet they do not hesitate to lay their track over it as if completed, Joseph Finnegan & Co. receiving pay for the completed road, and the Florida Railroad Company receiving the full complement of bonds from the State.

High embankments are finished one day by hands who have left the track, to complete a piece of graduation, and the next day the track is rushed over the green bank.

It remains only to examine the track which has been described as rough and unpleasant to ride over. When we inspect the manner of laying it, we shall not be surprised at the result that follows: The custom has been to rest the ties upon soft cushions of sand placed under each end of the stick, so that a few blows of the maul bring the tie to the grade line. When the iron is first laid down, the track may be smooth, but a single passage of the track-layer train compresses the soft heaps of earth, and the track is at once thrown out of surface. After a ten mile section has been laid in this way, the sub-contractor's force goes over it, for the purpose of restoring the surface and presenting his work for acceptance and final settlement. It would appear from what I have stated as the mode of laying the track, that under the middle of the tie there would be a cavity where the sleeper would have no bearing whatever, until by the constant passage of the trains the earth is crushed down and the height of the cavity is passed. The track was opened for the inspection of the Engineer whom you appointed to examine the work and this state of things found as I predicted.

On a previous occasion, in company with and by order of the Chief Engineer, I opened for the inspection of the Secretary of the Company a piece of track that was ready for the acceptance of the Engineer and exhibited this same defect. To illustrate its magnitude and convince Mr. Call of the necessity of an improvement in the mode of laying

the track, the train, consisting of empty flat cars pushed by an Engine, was moved slowly forward, and I called attention to the fact that ties and rail both sunk under the weight of a single pair of unloaded trucks. Of course under an Engine as well as under a loaded train the effect was much greater.

This track laid on a soft road bed should have been put down with great precaution against settling, at least the usual amount of care should have been taken to secure a good track; care to tramp the sleepers thoroughly and maul them to a uniform bearing.

The track of the Florida Railroad is the worst I have ever seen laid with a T rail; and this is the remark made by every experienced man who has examined it. On parts of this track where the line is straight, it has been thought necessary to limit the speed of passenger trains to a rate of eight miles per hour. On another portion where the line is curved it has been limited to five miles per hour.

I have thus shown the grosset faults in the construction of the Florida Railroad without discussing the location, which I must nevertheless say, I consider a bad one. I have passed in silence, certain features in the detail of the location, that might properly appear under the head of construction, since they affect directly the questions I am discussing. I have avoided all reference to the causes that have operated to produce a road of inferior character where a first class road was expected and paid for. The consideration of these causes comes next in order.

The organization by which members of the Board of Directors are permitted to become contractors is improper.—It is forbidden by every consideration of justice and is expressly forbidden by the laws of some of the States. It is a proceeding to be regarded with suspicion.

When the contractors are the principal Directors, as in the case of the Florida Railroad Company, the enormity of the wrong becomes apparent to every man of common sense. Nor is this wrong lessened by the intimate family connexion between the President, Executive and one of the contractors. It is a delicate matter to handle, but facts must be looked in the face, and while I do not accuse these gentlemen of corruption, they must possess more than the average complement of purity if great abuses do not follow such an arrangement of their business. This fact is best

known to those who have been longer acquainted than I with Messrs. Yulee, Finnegan, Call and Cole.

Certainly they have had full control of the matter. In two years they have had three different Chief Engineers. With all this power in their hands, they have been paid an extravagant price to build a good road, but have produced an inferior one.

There must have been an improper or lax inspection of work, or there must have been an interference with the duties of the Engineer corps. The truth is, first: a lax inspection, there being only a sufficient number of Engineers to stake out work, without time for inspecting it. Second: a direct interference with the Engineers, by which the effects of inspection were neutralized, or they were entirely forbidden to inspect.

As to the first. It appears to have been the policy of the Company to prevent inspection of work. The apportionment of Engineers has not been as is usual on Southern roads. It has consisted of one assistant engineer to about 25 miles of road. The duties of an assistant have been extended over 50 miles, and in this case without other aid than that of one negro, although there were over three hundred hands engaged in grading and getting cross-ties. Nor did the Company furnish a horse.

The sub-contractors have not been quietly observant of this organization. They have felt themselves in the power of Joseph Finnegan & Co. To this they were not likely to object, so long as Gen. McRae was a member of the firm. His presence was a guarantee that there would be no unjust advantage taken of them. He was well known in the railroad world as a man of unimpeachable integrity, great liberality, comprehensive, practical views and a large experience in railroad matters. An unfortunate difference caused him to withdraw from the firm. It is too true that this produced a feeling of insecurity among the sub-contractors, who found themselves in the hands of men whose previous enterprizes had not been of a character to build a very extensive reputation among mercantile men. It has been felt that disinterested decisions could not be expected where one of the parties had the sole appointment of the judges.

It would seem difficult for Engineers to maintain their self respect, and their connection with the Company, long at a time under circumstances that so appear to compromise their dignity and reputation. Accordingly we find, as I before stated, three different Chief Engineers in the last two years, and four different Engineers in charge of the track. There is not one Engineer on the road now who was on it two years ago.

Second. The acting Executive, resident at Fernandina, has continually interfered with the duties of the Engineer Corps. I proceed to mention certain instances that have produced the very bad track of which I have spoken. I have already stated (see page —) that on a certain occasion the track was opened for the inspection of the Secretary, that a bad condition of things was found to exist of which he was then and there made cognizant. It is nevertheless true, that he stepped between the Engineer and sub-contractor, and received for the benefit of his connection this identical portion of track, knowing it to be in an unfit condition for acceptance. The sub-contractor was not to be held responsible for a bad track, for the price of laying was unprecedentedly low, yet the Engineer could not receive from him in the name of the Florida Railroad Company, a track that was unfit to receive from Joseph Finnegan & Co. Here lay the difficulty, the sub-contractor made a contract to be interpreted under the liberal rulings of Gen. McRae, and when he left the firm the remaining parties allowed an unjust oppression of the sub-contractor so long as it cost them nothing. But the contract should have been revised and McDowell & Callahan should have been allowed an increased compensation. To prevent this, Mr. Call accepted the track without a right to do anything of the sort.

Subsequent to this, Mr. Call visited me on the work, for the purpose of a conference on the subject of the track-laying. It had become necessary, he said, to give me new directions that would expedite this work. I must in future allow the sub-contractor to lay the track as he pleased, and to accept it as fast as laid. I was to cease all inspection of the work, and devote myself to hurrying forward matters. I was to use condemned ties, or rather permit none to be condemned, since it would be necessary to use all we could get, whether of good quality or otherwise. Having represented that the work must be stopped for want of ties, I was authorized to put them forty inches apart.

I learned at the same time that Mr. Call had already given such an order to apply to certain cases. Mr. Call said

that he "had been continually urging haste, without so much reference to the character of the road, if it be simply safe to ride over, as to the policy of through rapidly. The Directors now conceded that he was right, and had put the future control of the engineering into his hands. They had therefore to push matters. They had made arrangements for money up to the 1st January, and it was necessary to reach the 80 mile point by that time in order to get hold of 30 miles of State bonds to meet certain obligations that would then fall due."

This track was received as directed, and as a matter of course, unfit for use. It included the portion of which I said (on page—) that "speeds of eight and of five miles an hour had been the limit on a part of the road."

With such a state of affairs existing in the management of the work it was impossible to have it well executed.

Such interference is without precedent in my experience. I am not called upon to make a plea or an argument on either side, nor am I to suggest improvements in the general railroad law of the State; yet no man can be intimate with the abuses of the State confidence that exist and not be anxious that some measure of reform should be adopted.

I conceive that the rigid surveillance of your Excellency over the conduct of those who are the recipients of these treasures, will produce a most happy result among capitalists, who will thus see that we regard the credit of the State as possessing a real value worthy of strict guardianship and not so much trash to be thrown as a perquisite to speculating politicians, who may sell it at a profit for their own uses.

I have concluded the duty I assigned myself. The points I have made are briefly as follows:

1st. The State contracted with the Florida Railroad Co. for a first class railroad, and has paid liberally for such a work.

2d. The Company understood and acknowledged the agreement in this way and promised compliance.

3d. Instead of fulfilling the terms of the bargain, the Company has built a grossly inferior road, but has nevertheless taken the full amount of the State treasures designed to be compensation for a road of the highest character.

4th. The mode of doing this has been an improper organization of the Company, by which contractors, acting as members of the Board of Directors, have been able to

control the engineers, and the contractors have been aided and abetted by a friend in the executive department of the company.

5th. The result is, that a few individuals have been endowed with large fortunes by the State, for which they have made no equivalent return.

All of which is respectfully submitted to your Excellency, by

Truly and Respectfully,
Your obedient serv't,
ALFRED SEARS,
Civil Engineer.

(H.)

JACKSONVILLE, Florida,
August 23rd, 1858.

His Excellency,
Gov. M. S. PERRY, DEAR SIR.—Captain L'Engle & Son were contractors on the Fernandina Railroad. Their contract embraced ten miles from station 1304 to station 1568, and is embraced in the 50 mile certificate given by the State Engineer (F. L. Dancy.) In consequence of the non-performance of Joseph Finegan &Co., they were compelled, after they had finished five miles thereof, and while at work on the other portion, to abandon it. They have sued on their contract, and Joseph Finegan &Co. now set up that the five miles was not made according to contract.

Will you do me the favor to send me a certified copy of this fifty mile certificate, together with a copy of the certificate or affidavit of the company made in connection with Dancey's certificate.

Yours, very truly,
WILLIAM A. FORWARD.

(I.)

The estimated cost of the Florida Railroad is,	$3,500,000 00
This sum includes *all* expenditures, and provides a fully equipped road, with depots, station-houses, wharves, and everything necessary to a full business.	
To pay this the Company have, of Internal Improvement Bonds,	1,655,000 00
Of Land Bonds, well secured, and which are paid to contractors at par,	1,500,000 00
	$3,155,000 00

Leaving to be raised on the stock,	345,000 00	
		3,500,000 00
The stock is fixed for the present at		3,000,000 00
Should the whole be taken, an assessment of 12 per cent. would produce		360,000 00
Or more than the amount required; but the whole stock as yet taken is only a little over $1,000,000, the present assessment on which (12 per cent.) produces		120,000 00
And, should no more be taken, a further assessment of 12½ per cent. will be required to produce		225,000 00
To make up the deficiency of		345,000 00
Making the total payment on the stock, in any event, only 34½ per cent., or $34 50 on every $100 subscribed. It is, however, presumed that there will be taken at least $500,000 more of the stock, making the whole amount		1,500,000 00
On which 25 per cent., or $25 on every $100, will be the whole assessment.		

While the road is in progress the interest on the internal improvement bonds is paid by the Internal Improvement Fund. After its completion, if the road earns six per cent. on its cost, the Company pays the interest and one per cent. on the amount of the bonds as a sinking fund. If the road does not earn six per cent., then the earnings are divided between the bonded debt and the stock paid in. The land bonds are secured by the town sites of Fernandina and Cedar Keys and seven hundred thousand acres of land, the sales of which will them without any cost to the Company, leaving the earnings of the road to be divided between the stockholders, (after paying the interest on the internal improvement bonds;) so that, if the road earns *eight per cent.* on the cost, there will be nearly $150,000 to be divided annually among the subscribers, which, divided by $345,000, (the amount of cash subscription required,) gives 43 cents annual income for every dollar paid in on the stock.

To facilitate subscription by the citizens of Florida, the Treasurer is authorized to receive the notes of all solvent persons at 90 days for all sums over $100, and at four months for all sums over $200, and at five months for all sums over $300, and at six months for all sums over $400. These notes, to make them equal to cash, should bear an interest of 8 per cent. from their dates and should be made payable to George W. Call, Treasurer Florida Railroad Company, or order. Upon being forwarded to Fernandina, the proper certificates of stock will be issued.

Signed,

GEO. W. CALL,
Sec. & Treas. Fla. R. R. Co.

(K.)

St. Marks, May 29th, 1858.

To the Hon. M. S. Perry,
Micanopy, East Florida:

Dear Sir—In answer to your communication dated May 11th, in relation to the ports on the West Coast of Florida, and particularly those of Cedar and Way Keys, I will state that I can give you no information as regards the latter port. Touching as I do twice a month at Cedar Key, I have an opportunity of forming an opinion of its capacity and qualities as a harbor. I do not consider any harbor a good one where there is less than two (2) fathoms of water at its entrance at low water, and I have never been able to find more than 11½ feet at the highest stage of the tide on the bar at the entrance of the harbor of Cedar Key, and have been delayed often waiting for the tide to rise when the steamer I command was drawing 8½ feet water. I have no interest in the matter whatever, and I have answered your enquiries to the best of my judgment.

By examining the chart and allowing it to be perfectly correct, it can never be called a good harbor by persons of nautical experience.

Very respectfully yours, &c.,
JOHN BODFISH,
Com. U. S. Mail St'r. Calhoun.

Cedar Keys, May 17, 1858.

Hon. M. S. Perry,
Micanopy, East Florida:

Dear Sir—Your esteemed favor of the 11th inst., came to hand yesterday and contents duly noted. To your several enquiries I most respectfully answer: On the bar entering Cedar Keys harbor, I find at low water, and in ordinary tides, 8 feet, at high water 10½, and on one occasion I found 11 feet. During northers these figures will be materially reduced. As to the necessary draft for a ship (steamer) to insure her the safe sea-going qualities, I should say nothing less than 10½ feet to 11 feet would be safe. For an open navigation destitute of adjacent harbors to run the coast 8½ feet would be safe. As to the harbor of Way Key, I know nothing of its facilities. Depot Key, the present landing, I am compelled to say I conceive it to be very contracted and limited for an ordinary fleet of vessels, for it would be an impossibility for a vessel anchored in mid-channel with 90 fathoms (the usual length of chain) but to swing clear of the bank on either side. The bottom is composed of lime rock, probably sufficient for all ordinary purposes, but in a heavy gale such as visit this coast should deem the anchorage of a

bad character. In conclusion permit me to add, that I have been prompted to make the above statement at your desire not from any personal feeling or motive of aggrandizement, as I wish to avoid being brought into collision with those interested for or against.

With my best regards, I remain,

Very respectfully yours,

W. H. TALBOT,

Com. U. S. Mail St'r. Atlantic.

(L.)

JACKSONVILLE, March 6th, 1855.

SIR—By instruction of the Board of Directors of the Florida Railroad Company, I beg leave to inform the Board of Trustees of the Internal Improvement Fund, that the Company makes full acceptance of the terms and provisions of the act passed at the late session of the General Assembly relative to a system of Internal Improvements in the State.

I beg leave also to say that they propose to construct a road from Amelia Island, in the direction of Tampa, as far as a point proposed for divergence to Cedar Key, and from said diverging point to Cedar Key by way of extension; and that if the amendment to the Charter of the Company now pending in the General Assembly is granted, they will also construct the balance of the road from the diverging point to Tampa.

I have to request that the reception of this letter be acknowledged by the Trustees to George W. Call Esq., the Secretary of the company at Jacksonville.

I have the honor to be, your ob't serv't.

D. L. YULEE, President Florida Railroad Co.

His Excellency, JAMES E. BROOME, President of the Board of Trustees &c.

(M.)

OFFICE FLORIDA RALROAD COMPANY,
Fernandina, August 21st, 1858.

To his Excellency, GOVERNOR M. S. PERRY,

SIR.—I am instructed by the Directors of the Company to communicate to you officially the following resolution adopted at a general meeting of the Stockholders held on the 26th of July, A. D. 1858, viz:

"*Resolved,* That this Company do accept the provisions of the

amended Charter, approved December 14th, 1855, entitled "an act to amend the act incorporating the Florida Railroad Company," and that the Board of Directors now elected do give notice of such acceptance to the Executive of this State."

Yours truly,

GEORGE W. CALL, Sec'y. Fla. R. R. Co.

(O.)

ALLIGATOR, Sept. 3d, 1858.

Received for suit, of Gov. M. S. Perry, one bond for the sum of three hundred thousand dollars, executed by the Florida Railroad Company as principal, and Joseph Finegan, A. H. Cole and Henry Timanus as securities, and it is understood that a reasonable compensation is to be paid the undersigned for the bringing and prosecution of the suit and collection of said bond, but should there be a disagreement as to the compensation, it is agreed that the same shall be referred to M. D. Papy and James T. Archer, or James M. Baker.

SMITH & GRAHAM,

By M. WHIT SMITH.

(P.)

LIGHT HOUSE INSPECTOR'S OFFICE,
7TH DIST., KEY WEST, FLA., August 7th, 1858.

SIR—I have the honor to report my return to this place, after making an examination of the coast and channels about Cedar Keys and St. Martin's reef, to ascertain what additional buoys, beacons, and lights, are necessary to be erected in view of the approaching completion of the Railroad across the peninsula.

Since I received your instructions, Mr. Parsons, a gentleman from Bayport, Fla., sent me two petitions from the citizens of Cedar Keys, and a letter from the Light House Board to Mr. Yulee. The petitioners ask for an iron screw Light House on the Southwest Spit of Sea Horse Reef, and for iron screw beacons along St. Martin's Reef, and for buoying out the different channels at Cedar Keys.

The Cedar Keys are a group of small Islands lying between the Suwannee and Withlacoochee rivers. There are shallow channels running between the

Islands. The greatest depth of water in the best one is only 8½ feet at low tide. To buoy out all of these channels, would cause an unnecessary expenditure of money without any justification. This main channel of about 8½ feet is already cared for. I would suggest, however, that heavier stakes should be driven down where small ones now are. They should be cabbage trees, as they are impervious to the worms. The expense would be about three hundred dollars.

To recommend an iron screw pile Light House on the Southwest Spit of Sea Horse Reef, particularly at the present time, when Cedar Keys is only a commercial place in embryo, would be unwise. The depth of water, nature of foundation and its exposed position, would cause a great outlay of money to build it and without any material benefit to the commercial community.—Should Cedar Keys succeed, its necessity will come naturally. To provide for its present wants and the wants of the vessels passing along the Florida Coast I would recommend a higher and stronger light at Sea Horse Key. The present one is on the keeper's dwelling, only 35 feet high; 77 feet above the level of the sea, and could not be seen by the Tender Florida under the most favorable circumstances, at the Southwest Spit of the Reef.

I would strongly recommend the iron screw Beacons along the outer edge of St. Martin's Reef, and a Light Ship on the outer edge, abreast of Bayport.

This edge is some 30 miles in length and is not in sight of land. Without these aids to navigation, it is very dangerous to mariners in approaching the Coast.

St. Martin's Reef should be surveyed.

At Tampa Bay, the larger buoys are put down and the old ones were used for Manitee River.

Very Respectfully, your ob't. serv't.

(Signed) BAYSE N. WESTCOTT, L. H. Insp., 7th Dist.

Commander T. A. JENKINS, Secretary L. H Board, Washington, D. C.

A true Copy:—W. B. FRANKLIN, Sec'y L. H. Board.

Nov. 10, 1858.

(Q.)

S. S. CALHOUN,
St. Marks, Nov. 29th, 1858.

Executive Department, Tallahassee, Florida:

I received your favor, dated Nov. 15th, requesting to be informed of the

Depth of water at Cedar Key, and also if Way Key possesses a good and safe Harbour and safe anchorage, and proper draft requisite for a Sea Steamer.—I have found, on my crossing the Bar, at Cedar Keys, which is four times per month, on an average of eleven feet six inches at high water, and eight feet six inches at low water. At spring tides there is thirteen feet with the wind Southward. The lowest water is in Northers, which blows the water out to seven feet. The Harbour is a good and safe one, with good anchorage, but very narrow. The draft of water for a Sea Steamer for the Coast of Florida, to the best of my judgment, ought to be not less than ten feet.

Yours Respectfully,

A. S. GARDNER, S. S. Calhoun.

(R.)

Sailing Directions for Cedar Keys and its approaches.

Approaching from the Southward, Sea Horse Key may be made by steering on the Meridian of 83 deg. 05' W., hard, sandy bottom and firm 3½ to 4 fathoms water. In clear weather, bottom may be seen in 5 and 6 fathoms. When the highest point of Sea Horse Key or the Lt. Ho. is seen from an elevation of 12 feet, the end of sea Horse Reef, which extends about 12 statute miles in S. Westerly direction, will bear West. When the highest point of Sea Horse Key bears N. by E. (N. 16½ E.) steer for it till up with the Bar, about 2 miles from the Lt. Ho. Vessels drawing 10 feet may cross it at ordinary water. It shoals gradually in approaching from the southward. Anchorage is good anywhere in this approach. (*Strong winds from S. W. sometimes leave only 7 feet on the bar.*) Steer in over the bar between N. E. ½ N. (N. 45 deg. E.) and when the channel deepens to 2 fathoms keep close to the W. bank. From here the channel is narrow. Pilots may be had by making signal. Bound in by Sea Horse Reef coming from the Westward, steer on the parallel of 28 deg. 56' until Sea Horse Key bears N. by E. (N. 16½ E.) to clear the end of Sea Horse Reef, then steer as above directed.

If entering the N. W. channel, bring N. Key to bear E ½ N. (East) and steer for it, when the Light House bears E. S. E. (S 62 deg. E.) steer N. E. (N. 45 deg. E.) for the bar (which has 10 feet at ordinary low water,) then E. ½ N. between the stakes. The channels are all staked out and easily recognized. The N. W. channel is very narrow and crooked from Middle

Keys to Depot Key, with not more than 8 feet on the Bulkhead, after passing the elbow round Middle Keys. Coming from the Northward and Westward keep in 3 fathoms till N. Key bears E. ½ N. (East,) to avoid many shoals of hard sand extending from Suwannee river. N. Key channel and the Swash, South of Sea Horse Key, are only useful for boats. There is good anchorage under the East side of Sea Horse Reef, safe in Westerly gales. All channels of any value are staked out and readily discovered, as bottom is of hard sand with occasional patches of dark grass.

Senate Journal.

A

Journal of Proceedings

OF THE

SENATE

OF THE

GENERAL ASSEMBLY

OF THE

State of Florida.

NINTH SESSION:

Begun and Held at the Capitol, in the City of Tallahassee, on

MONDAY, NOVEMBER 22d, 1858.

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